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June 2, 2009

Project No.: 933-6154-004

Ms. Valerie Orr
Ohio Environmental Protection Agency
Division of Drinking Water and Ground Water
UIC Unit
Lazarus Government Center – P.O. Box 1049
122 S. Front Street
Columbus, OH 43216-1049

RE: MODIFICATION OF INJECTION PROCEDURE
NEASE CHEMICAL SITE, SALEM, OHIO

Dear Ms. Orr

On August 18, 2006, Golder Associates Inc. (Golder), on behalf of RÜTGERS Organics Corporation (ROC), submitted an Application for an Exemption from Formal Permitting Procedures for a Class 5X26 Aquifer Remediation Project to be conducted at the former Nease Chemical Site (Site). Authorization for the installation and operation of Class V injection well(s) was provided by the Ohio Environmental Protection Agency (Ohio EPA) on August 31, 2006. A minor modification to the injection reagent was requested on November 20, 2006 and subsequently approved. The composition of the remedial slurry to be injected during the pilot study was modified to include the addition of food-grade soy powder to enhance dispersion of the nano-scale zero-valent iron (nZVI) after injection.

The purpose of this letter is to request a further modification of the existing authorization for the installation and operation of Class V injection well(s). As described in the Revised Hydraulic Fracturing and nZVI Injection Work Plan Operable Unit Two (Revised Work Plan) submitted to the Ohio Environmental Protection Agency (Ohio EPA) and the United States Environmental Protection Agency (USEPA) on May 21, 2009 (Attachment A), ROC is planning on conducting a second short-term groundwater remediation field pilot test at the Site referenced above. The second pilot-scale study is necessary to evaluate the potential for delivering nZVI more efficiently using hydraulic fracturing to enhance and further propagate the existing fracture network present in the target treatment unit (Middle Kittanning sandstone) and increase the transmissivity of this formation prior to nZVI injection. As describe in the Revised Work Plan, this will include the installation of a 45 ft deep bedrock open borehole which will be fractured using hydraulic pressure. Immediately following hydraulic fracturing a slurry composed of potable water with palladized nZVI and soy powder, equivalent to that described in the approved November 20, 2006 modification, will be injected using pressurized injection.

In addition to the requested modification to the permit described above and in accordance with Chapter 3745-34 of the Ohio Administrative Code (OAC) for Underground Injection Control (UIC) under Subsection 11 for Class V Wells effective April 23, 2009, Golder proposes to provide monthly reports for this one-time injection that will include the following information:

- A description of the fluids injected into the class V well;
- The volume of fluid injected into the class V well;
- The rate of injection of fluid into the class V well; and
- Any monitoring results.

If you have any questions regarding this modification, please do not hesitate to contact us.

Very truly yours,

GOLDER ASSOCIATES INC.

Michael Borda, Ph.D.
Senior Project Geochemist

Florin Gheorghiu, C.P.G.
Principal

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cc: Rainer Domalski, ROC
Mary Logan, USEPA
Tim Christman, Ohio EPA
Sheila Abraham, Ohio EPA
Charlie Lawrence, Golder